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STONEVILLE, U.S.A."



THE U.S.D.A. GINNING LABORATORY

STATE OF MISSISSIPPI

COOPERATING WITH THE

U.S. DEPT' OF AGRICULTURE

ADMINISTRATIONS, SERVICES

AND BUREAUS

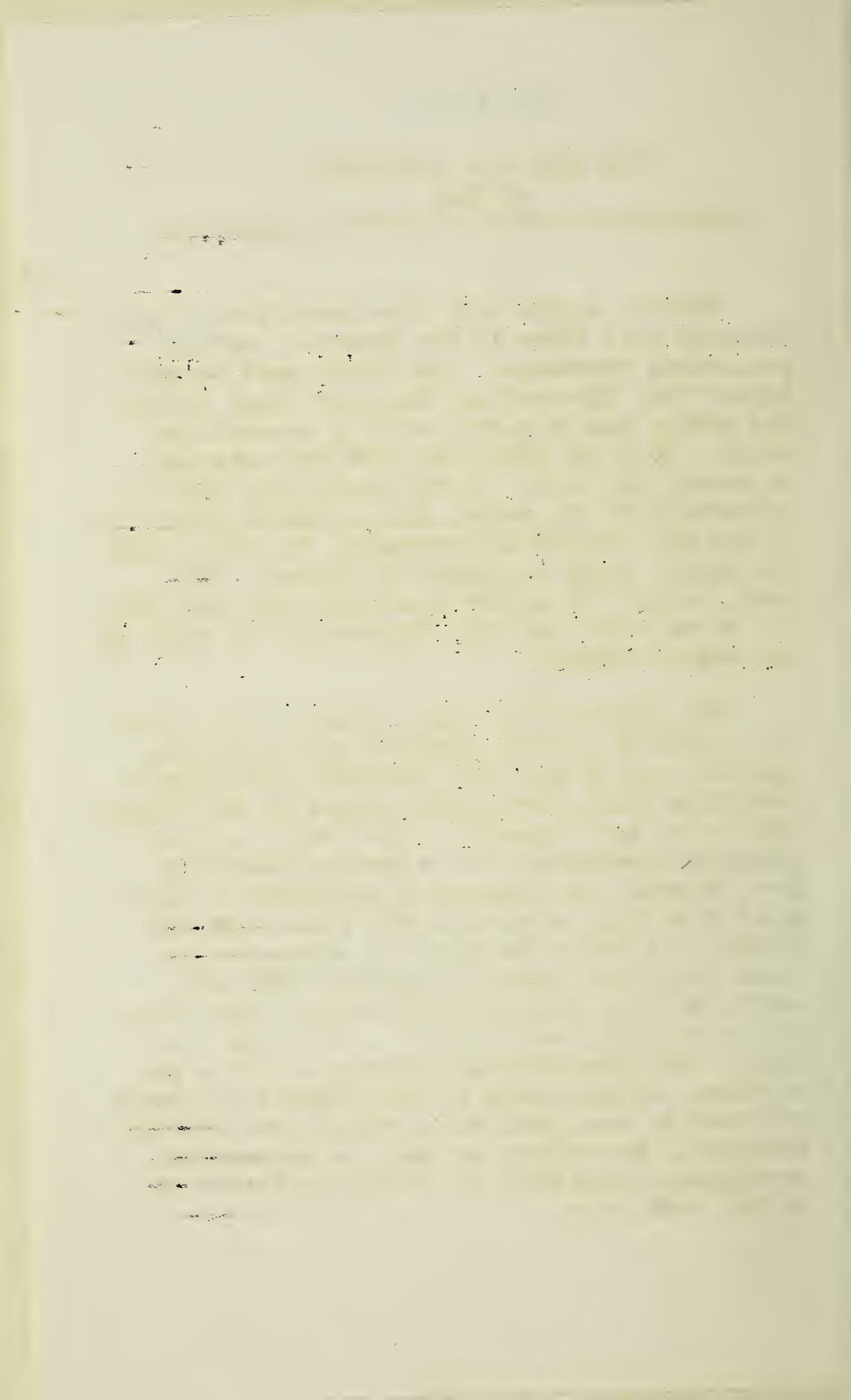
THE

MISS. DELTA BRANCH EXPER. STATION
IS THE WORLD'S LARGEST COTTON STATION

THE WORK AND FACILITIES
of the
STONEVILLE GINNING AND COTTON LABORATORY

Cotton, unlike most farm commodities, is marketed only after it has received certain processing treatment. The fibers must be separated from the seed and the lint baled before the cotton can be passed on into channels of trade. It is in this form that the material is graded and sold. In the early days, the processing at the cotton gin consisted primarily of the one process of separating the fiber from the seeds, which was known as ginning. The seed, during the period preceding 1900, had little or no value and were disposed of as waste in one way or another.

The grade of the lint produced and sold by the farmer is greatly affected by the ginning process, and it has been estimated that losses resulting from poor ginning amount to 15 million dollars or more annually. Therefore, as production, harvesting, and marketing practices have changed, the processing performed at gins has had to keep abreast of the times with the result that today the gin is a multi-process plant involving ginning, together with seed cotton drying, cleaning, extracting, lint cleaning, packaging, seed handling, and trash disposal. It represents an industry of large proportions and one which is still striving through research to cope with the problems presented by mechanical harvesting and changes in marketing conditions which call for better qualities of cotton each year.



To meet the needs for public research on this subject, the United States Cotton Ginning Laboratory was established at Stoneville, Miss., in 1930, under an Act of Congress authorizing ginning investigations. The work at the Laboratory is intended to cover all phases of handling, ginning, and packaging cotton with a view to developing improved methods and acquainting growers and ginners with these methods. It is directed toward better and more economical ginning and the placing of good-quality cotton on the market. The agricultural engineers of the Bureau of Plant Industry, Soils, and Agricultural Engineering are responsible for the engineering research and development work at the Laboratory, and the technologists of the Cotton Branch, Production and Marketing Administration, for the studies of fiber technology, quality, and ginning economics.

The Stoneville Laboratory is equipped with virtually all standard makes and types of gin machinery. This equipment is installed so as to permit operation of each unit under wider ranges of conditions than would likely prevail in a commercial ginning establishment in any part of the Cotton Belt except in the arid section. In most of the tests at Stoneville, conditions as they actually exist in the commercial gin plant are faithfully reproduced. In other tests, measured variations are produced to show the effects these variations have upon grade, staple length, preparation, and spinning value of the ginned sample. The Laboratory has complete technical equipment for checking the conditions under which tests are made and the results of those tests. Shop facilities are available for the construction of experimental machines and devices designed by the engineers and technologists at Stoneville.

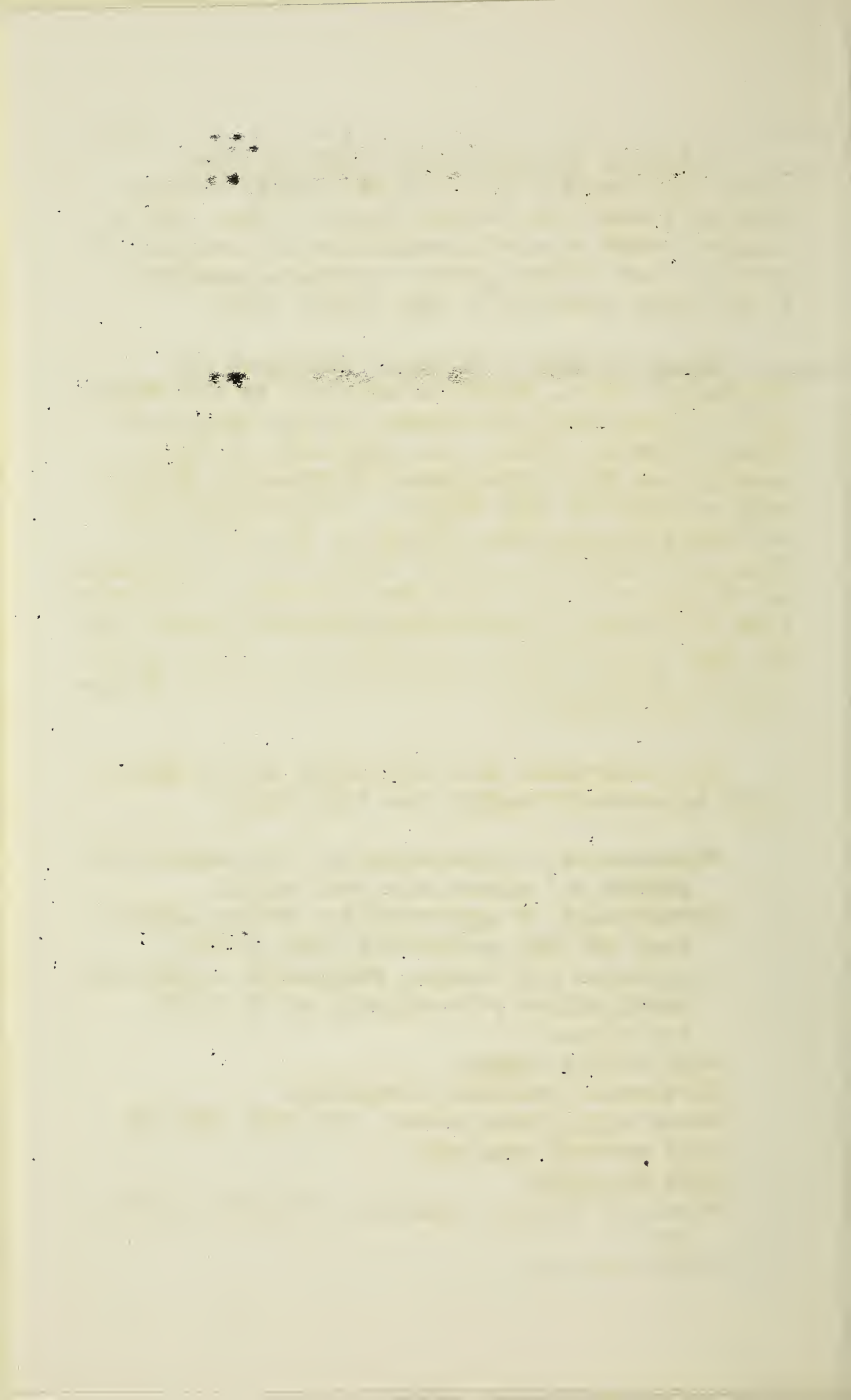
The first part of the paper is devoted to a general discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The second part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The third part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The fourth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The fifth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The sixth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The seventh part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The eighth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The ninth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The tenth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science.

A branch Ginning Laboratory patterned after and operated like the Stoneville Laboratory is located at Mesilla Park, N. Mex. It is equipped with research facilities for studies of both saw and roller ginning problems peculiar to the arid sections of the Cotton Belt.

There is also a Ginning Laboratory at Chickasha, Okla., which is operated by the Division of Mechanical Processing of the Bureau of Plant Industry, Soils, and Agricultural Engineering and the Agricultural Engineering Department of Oklahoma A&M College. This Laboratory was built through the efforts of the Oklahoma Research Foundation, which donated the facilities, and is operated to obtain the answers to the problems of handling mechanically stripped cotton in the high plains regions of Oklahoma. It is used to test experimental machines developed at Stoneville and elsewhere.

The activities and facilities at the Stoneville Laboratory include the following:

- Development of equipment for the removal of sticks and stems from seed cotton
- Development of equipment for drying cottonseed at gins concurrent with ginning
- Facilities for testing full-scale models and combinations of equipment under field conditions
- Seed cotton drying
- Cottonseed handling facilities
- Green boll, tramp metal, and rock removal
- Feed control research
- Lint cleaning
- Standard density packaging of cotton at the gin
- Trash disposal



- Equipment development laboratory shops
- Gin research shop facilities
- Developing and testing gin equipment under laboratory conditions
- Gin stand research with respect to large and small trash removal
- Late-model gins and feeders
- Cotton moisture-control studies, basic and applied research
- Unit cleaning devices (cleaners - extractors)
- Small size gins (20-saw and 8-saw)
- Ginning cost studies
- Ginning quality studies

Facilities for making service tests and evaluating samples in connection with ginning research studies:

- Mechanical blending of cotton samples
- Length and length uniformity
- Fiber strength
- Fiber maturity
- Fiber fineness
- Foreign matter determination of lint and cotton
- Moisture determination of lint and seed cotton

Cottonseed grading research:

- Grading of cottonseed (chemical method)
- Electronic moisture meter
- Electronic oil meter
- Cottonseed linters determination
- Cottonseed cleaner-mixer

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